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SMITH MOORE LLP				
P.O. BOX 21927				
GREENSBORO, NC 27420				
EXAMINER				
LEE, RIP A				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/706,569

Applicant(s)

AHMED ET AL.

Examiner

RIP A. LEE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-6, 8-10, 14, 15, 17-19, 29 and 32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-6, 8-10, 14, 15, 17-19, 29 and 32 is/are rejected.
- 7) ☒ Claim(s) 10, 29 and 32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This office action follows a response filed on November 30, 2007. Claims 3-6, 8, 9, 10, 14, 15, 17-19, and 29 were amended. Claims 30 and 31 were canceled, and new claim 32* was added. Claims 3-6, 8-10, 14, 15, 17-19, 29, and 32* are pending.

Claim Objections

1. * The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 32 been renumbered 31. That is, the new claim 31 on page 8 needs to be labeled as claim 32.

2. Claim 10 is objected to because of the following informalities: In line 6, please replace "25%" with "25 mole %." Appropriate correction is required.

3. Claim 29 is objected to because of the following informalities: In line 21, the claim indicates that the composition exhibits a certain water absorption property. This does not appear to be correct since it is the polymer itself, rather than the composition that contains or is comprised of said polymer, that would exhibit the claimed features. Appropriate correction is required.

4. Claim 32* is objected to because of the following informalities: Please insert "the group consisting of" between the words "from" and "calcium." Appropriate correction is required.

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Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 3-6, 8-10, 14, 15, 17-19, 29, and 32* are rejected under 35 U.S.C. 103(a) as being unpatentable over Gartner *et al.* (WO 98/49221; equivalent U.S. 6,323,252) in view of evidence provided in Wilson (U.S. 6,579,958) and in Aberson *et al.* (U.S. 4,548,847).

Gartner *et al.* discloses a composition containing superabsorbent particles having a degree of neutralization of 20-95 %, and preferably 40-85 % (col. 5, line 25) and 0.0005-5 parts by weight of internal crosslinking agent (col. 6, line 12). Additional surface crosslinking with 100-50,000 ppm (0.01-5 %) of surface crosslinking agent may be employed (col. 8, lines 30-42). After heat treatment, the superabsorbent particles are contacted with an aqueous solution of multivalent metal salt (claims 1, 3, 8). The solution is applied onto the superabsorbent polymer by spraying (col. 12, line 67) such that an amount of 0.05-5 % of monovalent salt or up to 0.5 % of trivalent salt is added to the particle (col. 4, lines 3 and 15). Since the solution is sprayed onto the surface of the particle, it is deemed that the solution qualifies as a coating.

Gartner *et al.* is silent with respect to the properties recited in the instant claims, however, in view of the fact that the superabsorbent particles are substantially the same as that described in the instant claims, a reasonable basis exists to believe that the superabsorbent particles exhibit the claimed properties. Since the PTO can not perform experiments, the burden is shifted to the Applicants to establish any unobviousness differences. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

It is noted that the instant claims recite a conditional phrase, "when the coating of (b) is washed off," and Gartner *et al.* does not indicate that the metal salt is removable. One reads in Gartner *et al.* that trivalent salts may contribute to surface crosslinking which reduces the absorption capacity of the superabsorbent polymer (col. 4, lines 14-16). However, it is known that this type of crosslinking is a reversible phenomenon, as shown in Wilson (claim 1). Aberson

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et al. also illustrates that the polyacrylate-metal ion crosslinking is reversible (abstract). Thus, it appears that the metal salt is removable and washable. Furthermore, one having ordinary skill in the art would reasonably expect that a coating of monovalent salt, which would not participate in crosslinking, sprayed onto the surface of the superabsorbent particle is removable by washing. Again, since the PTO can not perform experiments, the burden is shifted to the Applicants to establish any unobviousness differences. Based on these considerations, and in light of the fact that the claim recites a conditional phrase with no implication of how the salt coating is washed off, one of ordinary skill in the art has a reasonable basis to believe that the superabsorbent particles of Gartner *et al.* exhibit the claimed features.

7. Claims 3-6, 8-10, 14, 15, 17-19, 29, and 32* are rejected under 35 U.S.C. 103(a) as being unpatentable over Inger *et al.* (U.S. 7,157,141) in view of evidence provided in Wilson (U.S. 6,579,958) and in Aberson *et al.* (U.S. 4,548,847).

Inger *et al.* discloses a composition containing superabsorbent particles containing 0.1-3 wt % of internal crosslinking agent (col. 4, line 53) and 0.1-10 wt % of surface post-crosslinking agent (col. 5, line 9). After surface post-crosslinking (col. 6, lines 44-49), the superabsorbent polymer particle is treated with a solution of trivalent cation as $Al_2(SO_4)_3$ or $AlCl_3$ sufficient to provide an amount of 0.001-1.0 wt % of salt component (col. 3, lines 36-45).

Inger *et al.* is silent with respect to the properties recited in the instant claims, however, in view of the fact that the superabsorbent particles are substantially the same as that described in the instant claims, a reasonable basis exists to believe that the superabsorbent particles exhibit the claimed properties. Since the PTO can not perform experiments, the burden is shifted to the Applicants to establish any unobviousness differences. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

It is noted that the instant claims recite a conditional phrase, "when the coating of (b) is washed off," and Inger *et al.* does not indicate that the metal salt is removable. However, one having ordinary skill in the art would find it reasonable to believe that since the superabsorbent polymer particle is already surface crosslinked, that the added coating of aluminum salt would be

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readily removable and washable. Even if the trivalent salt may participate in some degree of surface crosslinking, it is known that this type of crosslinking is a reversible phenomenon, as shown in Wilson (claim 1). Aberson *et al.* also illustrates that the polyacrylate-metal ion crosslinking is reversible (abstract). Thus, it appears that the metal salt is removable and washable. Based on these considerations, and in light of the fact that the claim recites a conditional phrase with no implication of how the salt coating is washed off, one of ordinary skill in the art has a reasonable basis to believe that the superabsorbent particles of Inger *et al.* exhibit the claimed features.

Response to Arguments

8. The rejection of claims under 35 U.S.C. 112, first paragraph, has been overcome by amendment.

The rejection of claims over Mertens *et al.* (WO 00/53664) has been withdrawn. The reference teaches crosslinking of superabsorbent particles by heating said particles in a solution containing metal ion with 1,3-dioxolane-2-one (secondary surface crosslinking agent). The subject matter of the instant claims is not anticipated by the prior art.

The rejection of claims over Ganslaw *et al.* (U.S. 4,043,952) has been withdrawn. The prior art teaches surface crosslinking of a superabsorbent particle by dispersing said particles into a solution of polyvalent metal ion. The subject matter of the instant claims is not anticipated by the prior art.

The rejection of claims over Harada *et al.* (U.S. 5,115,011) has been withdrawn. Harada *et al.* discloses improvement of absorption properties of superabsorbent particles by treatment in an aqueous solution of aluminum sulfate. The subject matter of the instant claims is not anticipated by the prior art.

The rejection of claims over Gartner *et al.* (WO 98/49221) and Inger *et al.* (U.S. 7,157,141) have been withdrawn, and new rejections based on these references in combination with secondary references have been established above. Applicant's arguments with respect to these references, have been considered, but are but are moot in view of the new ground(s) of rejection

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Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu S. Jagannathan, can be reached at (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

/Rip A. Lee/
Examiner, Art Unit 1796

February 13, 2008